

## **REMARKS**

The present application includes pending claims 22-40, all of which have been rejected. The Applicants respectfully submit that these claims define allowable subject matter at least for the reasons discussed hereafter.

**1. The Rejection Of Claims 22-40 As Being Unpatentable Over Claims 1-21 Of U.S. Patent No. 6,688,329**

Claims 22-40 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-21 of U.S. Patent No. 6,688,329 (the "'329 patent"). As indicated in the Office Action, a timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. The Applicants have concurrently submitted such a terminal disclaimer in order to overcome this rejection.

**II. The Rejection Of Claims 22-30 As Being Anticipated By United States Patent No. 6,390,027**

**A. U.S. Patent No. 6,390,027 does not constitute 35 U.S.C. § 102(b) prior art as a patent or printed publication**

Claims 22-40 were also rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent No. 6,390,027 ("Lyons" or the "'027 patent"). Applicants respectfully submit that this printed publication does not constitute 35 U.S.C. § 102(b) prior art against the present invention for the reasons stated below. Specifically, section 102(b) states in pertinent part:

A person shall be entitled to a patent unless – ...

(b) the invention was **patented or described in a printed publication** in this or a foreign country or in public use or on sale

in this country, **more than one year prior to the date of application for patent in the United States.**  
35 U.S.C. § 102(b) (emphasis added).

Lyons was filed on May 31, 2000 (in the names of the exact same inventors as the present application), but was not **patented/published** until May 21, 2002. "If the publication or issue date of the reference is more than 1 year prior to the effective filing date of the application (MPEP § 706.02), the reference qualifies as prior art under 35 U.S.C. 102(b)." *See* Manual of Patent Examining Procedure (MPEP) at § 706.02(a)(II)(A) at page 700-22. Thus, in order to qualify as prior art under 35 U.S.C. § 102(b), the issue date of Lyons, i.e., May 21, 2002, must be more than 1 year prior to the effective filing date of the present application.

The present application was filed January 20, 2004, and is a continuation of application No. 09/900,377 filed on July 6, 2001, which is now the '329 patent.

If the application is a continuation or divisional of one or more earlier U.S. application or international application and if the requirements of 35 U.S.C. 120 and 365(c), respectively, have been satisfied, the effective filing date is the same as the earliest filing date in the line of continuation or divisional applications.

*See* MPEP § 706.02(V)(A) at page 700-21. Thus, the effective filing date of the present application is July 6, 2001.

In order for Lyons to qualify as prior art under 35 U.S.C. 102(b) with respect to the present application, its issue date must be more than one year prior to the effective filing date of the present application. The issue date of Lyons, however, is May 21, 2002, which is clearly later than the effective filing date of the present application, i.e., July 6, 2001. As such, Lyons

does not qualify as prior art under 35 U.S.C. § 102(b) with respect to the present application. At least for this reason, Lyons does not render claims 22-40 of the present application unpatentable.

**B. The device described by U.S. Patent No. 6,390,027 does not anticipate the present invention.**

Applicants respectfully submit that although the '027 patent is not a printed publication within the purview of section 102(b), the device described by U.S. Patent No. 6,390,027 was in public use or on sale in this country more than one year prior to the date of application for patent in the United States. Thus, the device itself is eligible for consideration as prior art under 35 U.S.C. § 102(b). An accurate description of the device can be found in the '027 patent.

Assuming that the Examiner's rejection may follow from the device described by the '027 patent, applicants submit that the present invention is not anticipated by the prior art cycle control system described by the '027 patent.

The device described by the '027 patent teaches a cycle control system for use with a boiler, and a method to monitor the boiler to determine the presence of an adequate level of fluid therein. The cycle control system includes a timing circuit for producing a burner control signal that has alternating on and off states corresponding to on and off period timers to allow foam to settle. The off period is of sufficient duration to allow foam and surging fluid in the boiler to settle to allow accurate determination of fluid level in the boiler.

The Examiner states that the Lyons, et al., anticipates the present invention because the prior art teaches a Hold-Off Timer for counting or measuring durations, which is readable on the counter. Applicants disagree.

The device identified by the '027 Patent periodically interrupts the fuel supply to a burner of a boiler so as to allow the liquid and foam in the boiler to settle to permit a probe-type low

water cut-off sensor to sense the true liquid level in the boiler. Lyons, col. 2, 1.66 – col. 3, 1.3. The device monitors whether the demand controller has kept the burner off for a long enough period for the probe to sense the fluid level accurately. The timing circuit starts the hold off timer when the demand control circuit turns off the burner, and the timing circuit resets the on-period timer after the hold off timer indicates the demand control circuit has kept the burner off for a length of time sufficient to allow foam and surging fluid in the boiler to settle. Lyons, col. 4, 11.15-29.

Neither the device nor the '027 patent teach, suggest, or disclose a water feeder controller that monitors a low water cutoff sensor in a boiler, and uses a feed timer to coordinate feed water to the boiler for a predetermined period of time. The present invention comprises:

a delay timer having a delay timer period, the delay timer being responsive to a low water signal; ... and a feed timer having a feed timer period, the feed timer being connected to the delay timer to begin timing for the feed timer period after the delay timer period, the feed timer being configured to turn on a feed valve during the feed timer period, and the feed timer being connected to the feed counter to increment the feed counter during the feed timer period.

Claim 22.

The '027 patent does not suggest a feed timer for supplying feed water to a boiler. Although a timer is disclosed, the purpose and function of the hold off timer is entirely distinct from the feed timer of the present invention. Essentially, the present invention checks the low water signal after the delay period, and feeds water to the boiler for a predetermined period of time as measured by a feed timer if the water signal indicates insufficient water in the boiler after the delay period. Specification, p.7, 11.1-9. The '027 patent makes no provision for a feed timer, or for any type of timing control of the water feed to the boiler.

Additionally, the '027 patent does not suggest connecting a feed timer to a delay timer. The present invention synchronizes these timers so that sufficient water may be feed to the boiler if a low water signal is registered after the delay period.

For the reasons discussed above, applicants respectfully submit that the present invention remains patentably distinct over the '027 patent and the device described by the '027 patent.

In view of the foregoing, it is respectfully submitted that pending claims 22-40 of the present application define patentable subject matter. A favorable action on the merits is respectfully requested. Should anything remain in order to place the present application in condition for allowance, the Examiner is kindly invited to contact the undersigned at the telephone number listed below. The Commissioner is authorized to charge any fees or credit overpayment to Deposit Account 04-0566.

Respectfully submitted,

Date: November 16, 2004

By: \_\_\_\_\_



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